

GP-301069

## ROBOTIC RACK LOADING APPARATUS AND METHOD

## ABSTRACT OF THE DISCLOSURE

Robotic rack loading apparatus and method include features and loading steps that provide essentially damage free rack loading of automotive panel assemblies into a specially designed rack. The rack includes dunnage elements containing sets of slots with lead-in upper edge angles and sensing holes associated with the slots. The robot carries a modified end of arm tool including a sensor to sense the location of a sensing hole to position a panel for loading into a corresponding set of slots. Another sensor preferably senses objects or structure in the rack to position the tool in a preload position. A compliant device allows lateral and longitudinal compliance of the end of arm tool to allow assemblies to be funneled into position in the slots without encountering damaging stress. A programmed robot can thus automatically load panel assemblies into the rack without damage.